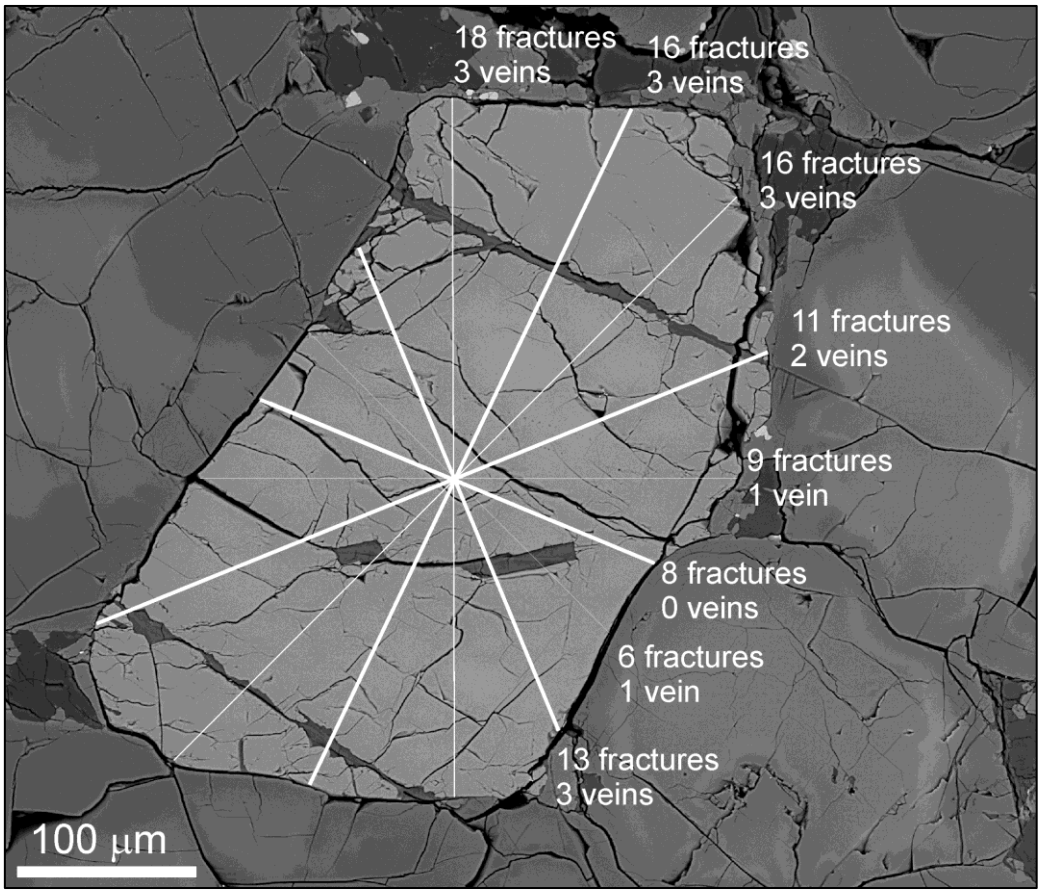
Supplementary figure 1
Procedure for calculating the density and preferred orientation of fractures and veins, using Lafayette olivine grain 4 as an example.

The number of fractures and veins intersected by each of 8 lines is divided by the line length, and inserted into the table below.



Data extracted from the above image

Line length (μm)	Number of fractures intersected	Number of fractures/μm	Line length (μm)	Number of veins intersected	Number of veins/μm
393	18	0.046	393	3	0.008
453	16	0.035	453	3	0.007
303	16	0.053	303	3	0.010
242	11	0.046	242	2	0.008
423	9	0.021	423	1	0.002
406	8	0.020	406	0	0.000
242	6	0.025	242	1	0.004
300	13	0.043	300	3	0.010
	f_{mean}	0.036		v_{mean}	0.006
	f_{max}	0.053		v_{max}	0.010
	f_{min}	0.020		v_{min}	0.000
	Preferred orientation factor: $(100/ f_{max})\times f_{min}$	37%		Preferred orientation factor: $(100/ f_{max})\times f_{min}$	0%